

SEQUENCE LISTING

<110> MCCARTHY, Sean A  
BARNES, Thomas M  
FRASER, Christopher C  
SHARP, John D

<120> NOVEL GENES ENCODING PROTEINS HAVING DIAGNOSTIC,  
PREVENTIVE, THERAPEUTIC, AND OTHER USES

<130> 10147-6U2

<140> Not Yet Assigned  
<141> 2001-10-25

<150> US 09/333,159  
<151> 1999-06-14

<150> US 09/578,063  
<151> 2000-05-24

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<170> PatentIn Ver. 2.1

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35 40 45

Thr Ala Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe  
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Gln His Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Leu  
65 70 75 80

Gly Glu His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp  
85 90 95

Cys Tyr Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu  
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Ile Pro Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His  
115 120 125

Gly Asn Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu  
130 135 140

Thr Ile Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe  
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Ala Gly Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp  
165 170 175

Tyr Trp Lys Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys  
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Phe Gly Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu  
195 200 205

Phe Asp Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser  
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Ser Val Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg  
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Val Cys Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe  
245 250 255

Ser Phe Pro Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu  
260 265 270

Leu Asp Gly Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser  
275 280 285

Arg Pro Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr  
290 295 300

Phe Phe Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr  
305 310 315 320

Gln Ala Val Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln  
325 330 335

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Ala Arg Ser Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His  
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Pro Pro Gln Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly  
370 375 380

Ala Gly Ser His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr  
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Leu Leu Ile Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His  
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Val Thr Phe Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp  
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Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr Lys  
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Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro  
35 40 45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Leu Gly Glu His  
50 55 60

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val  
65 70 75 80

Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala  
85 90 95

Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro  
100 105 110

Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln  
115 120 125

Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met  
130 135 140

Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys  
145 150 155 160

Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp

165                    170                    175

His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr  
180                    185                    190

Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser Ser Val Val  
195                    200                    205

Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr  
210                    215                    220

Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe Ser Phe Pro  
225                    230                    235                    240

Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly  
245                    250                    255

Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser Arg Pro Pro  
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Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser  
275                    280                    285

Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Val  
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Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Val Ala  
305                    310                    315                    320

Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala Arg Ser  
325                    330                    335

Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His Pro Pro Gln  
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Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly Ala Gly Ser  
355                    360                    365

His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr Leu Leu Ile  
370                    375                    380

Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His Val Thr Phe  
385                    390                    395                    400

Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp Cys His Gln  
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35 40 45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His  
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Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro  
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Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met  
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<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Asp Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr

20

25

30

Lys Pro Ser Thr Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln

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<212> PRT

<213> Homo sapiens

<400> 11

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Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu

20

25

30

Asn Ser Cys Phe Leu Ile Ser Ser Phe Asn Gly Thr Asp Leu Glu Leu

35

40

45

Arg Leu Val Asn Gly Asp Gly Pro Cys Ser Gly Thr Val Glu Val Lys

50

55

60

Phe Gln Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Thr Thr

65

70

75

80

Ala Ser Thr Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Phe Ala

85

90

95

Met Phe Arg Phe Gly Gln Ala Val Thr Arg His Gly Lys Ile Trp Leu

100

105

110

Asp Asp Val Ser Cys Tyr Gly Asn Glu Ser Ala Leu Trp Glu Cys Gln

115

120

125

His Arg Glu Trp Gly Ser His Asn Cys Tyr His Gly Glu Asp Val Gly

130

135

140

Val Asn Cys Tyr Gly Glu Ala Asn Leu Gly Leu Arg Leu Val Asp Gly

145

150

155

160

Asn Asn Ser Cys Ser Gly Arg Val Glu Val Lys Phe Gln Glu Arg Trp

165

170

175

Gly Thr Ile Cys Asp Asp Gly Trp Asn Leu Asn Thr Ala Ala Val Val

180

185

190

Cys Arg Gln Leu Gly Cys Pro Ser Ser Phe Ile Ser Ser Gly Val Val

195

200

205

Asn Ser Pro Ala Val Leu Arg Pro Ile Trp Leu Asp Asp Ile Leu Cys

210

215

220

Gln Gly Asn Glu Leu Ala Leu Trp Asn Cys Arg His Arg Gly Trp Gly

225                    230                    235                    240  
Asn His Asp Cys Ser His Asn Glu Asp Val Thr Leu Thr Cys Tyr Asp  
245                    250                    255  
  
Ser Ser Asp Leu Glu Leu Arg Leu Val Gly Gly Thr Asn Arg Cys Met  
260                    265                    270  
  
Gly Arg Val Glu Leu Lys Ile Gln Gly Arg Trp Gly Thr Val Cys His  
275                    280                    285  
  
His Lys Trp Asn Asn Ala Ala Ala Asp Val Val Cys Lys Gln Leu Gly  
290                    295                    300  
  
Cys Gly Thr Ala Leu His Phe Ala Gly Leu Pro His Leu Gln Ser Gly  
305                    310                    315                    320  
  
Ser Asp Val Val Trp Leu Asp Gly Val Ser Cys Ser Gly Asn Glu Ser  
325                    330                    335  
  
Phe Leu Trp Asp Cys Arg His Ser Gly Thr Val Asn Phe Asp Cys Leu  
340                    345                    350  
  
His Gln Asn Asp Val Ser Val Ile Cys Ser Asp Gly Ala Asp Leu Glu  
355                    360                    365  
  
Leu Arg Leu Ala Asp Gly Ser Asn Asn Cys Ser Gly Arg Val Glu Val  
370                    375                    380  
  
Arg Ile His Glu Gln Trp Trp Thr Ile Cys Asp Gln Asn Trp Lys Asn  
385                    390                    395                    400  
  
Glu Gln Ala Leu Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Val  
405                    410                    415  
  
Phe Gly Ser Arg Arg Ala Lys Pro Ser Asn Glu Ala Arg Asp Ile Trp  
420                    425                    430  
  
Ile Asn Ser Ile Ser Cys Thr Gly Asn Glu Ser Ala Leu Trp Asp Cys  
435                    440                    445  
  
Thr Tyr Asp Gly Lys Ala Lys Arg Thr Cys Phe Arg Arg Ser Asp Ala  
450                    455                    460  
  
Gly Val Ile Cys Ser Asp Lys Ala Asp Leu Asp Leu Arg Leu Val Gly  
465                    470                    475                    480  
  
Ala His Ser Pro Cys Tyr Gly Arg Leu Glu Val Lys Tyr Gln Gly Glu

485	490	495
Trp Gly Thr Val Cys His Asp Arg Trp Ser Thr Arg Asn Ala Ala Val		
500	505	510
Val Cys Lys Gln Leu Gly Cys Gly Lys Pro Met His Val Phe Gly Met		
515	520	525
Thr Tyr Phe Lys Glu Ala Ser Gly Pro Ile Trp Leu Asp Asp Val Ser		
530	535	540
Cys Ile Gly Asn Glu Ser Asn Ile Trp Asp Cys Glu His Ser Gly Trp		
545	550	555
Gly Lys His Asn Cys Val His Arg Glu Asp Val Ile Val Thr Cys Ser		
565	570	575
Gly Asp Ala Thr Trp Gly Leu Arg Leu Val Gly Gly Ser Asn Arg Cys		
580	585	590
Ser Gly Arg Leu Glu Val Tyr Phe Gln Gly Arg Trp Gly Thr Val Cys		
595	600	605
Asp Asp Gly Trp Asn Ser Lys Ala Ala Ala Val Val Cys Ser Gln Leu		
610	615	620
Asp Cys Pro Ser Ser Ile Ile Gly Met Gly Leu Gly Asn Ala Ser Thr		
625	630	635
Gly Tyr Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Asp Gly Asp Glu		
645	650	655
Ser Asp Leu Trp Ser Cys Arg Asn Ser Gly Trp Gly Asn Asn Asp Cys		
660	665	670
Ser His Ser Glu Asp Val Gly Val Ile Cys Ser Asp Ala Ser Asp Met		
675	680	685
Glu Leu Arg Leu Val Gly Gly Ser Ser Arg Cys Ala Gly Lys Val Glu		
690	695	700
Val Asn Val Gln Gly Ala Val Gly Ile Leu Cys Ala Asn Gly Trp Gly		
705	710	715
Met Asn Ile Ala Glu Val Val Cys Arg Gln Leu Glu Cys Gly Ser Ala		
725	730	735
Ile Arg Val Ser Arg Glu Pro His Phe Thr Glu Arg Thr Leu His Ile		

740                    745                    750

Leu Met Ser Asn Ser Gly Cys Thr Gly Gly Glu Ala Ser Leu Trp Asp  
755                    760                    765

Cys Ile Arg Trp Glu Trp Lys Gln Thr Ala Cys His Leu Asn Met Glu  
770                    775                    780

Ala Ser Leu Ile Cys Ser Ala His Arg Gln Pro Arg Leu Val Gly Ala  
785                    790                    795                    800

Asp Met Pro Cys Ser Gly Arg Val Glu Val Lys His Ala Asp Thr Trp  
805                    810                    815

Arg Ser Val Cys Asp Ser Asp Phe Ser Leu His Ala Ala Asn Val Leu  
820                    825                    830

Cys Arg Glu Leu Asn Cys Gly Asp Ala Ile Ser Leu Ser Val Gly Asp  
835                    840                    845

His Phe Gly Lys Gly Asn Gly Leu Thr Trp Ala Glu Lys Phe Gln Cys  
850                    855                    860

Glu Gly Ser Glu Thr His Leu Ala Leu Cys Pro Ile Val Gln His Pro  
865                    870                    875                    880

Glu Asp Thr Cys Ile His Ser Arg Glu Val Gly Val Val Cys Ser Arg  
885                    890                    895

Tyr Thr Asp Val Arg Leu Val Asn Gly Lys Ser Gln Cys Asp Gly Gln  
900                    905                    910

Val Glu Ile Asn Val Leu Gly His Trp Gly Ser Leu Cys Asp Thr His  
915                    920                    925

Trp Asp Pro Glu Asp Ala Arg Val Leu Cys Arg Gln Leu Ser Cys Gly  
930                    935                    940

Thr Ala Leu Ser Thr Thr Gly Gly Lys Tyr Ile Gly Glu Arg Ser Val  
945                    950                    955                    960

Arg Val Trp Gly His Arg Phe His Cys Leu Gly Asn Glu Ser Leu Leu  
965                    970                    975

Asp Asn Cys Gln Met Thr Val Leu Gly Ala Pro Pro Cys Ile His Gly  
980                    985                    990

Asn Thr Val Ser Val Ile Cys Thr Gly Ser Leu Thr Gln Pro Leu Phe

995

1000

1005

Pro Cys Leu Ala Asn Val Ser Asp Pro Tyr Leu Ser Ala Val Pro Glu  
1010 1015 1020

Gly Ser Ala Leu Ile Cys Leu Glu Asp Lys Arg Leu Arg Leu Val Asp  
1025 1030 1035 1040

Gly Asp Ser Arg Cys Ala Gly Arg Val Glu Ile Tyr His Asp Gly Phe  
1045 1050 1055

Trp Gly Thr Ile Cys Asp Asp Gly Trp Asp Leu Ser Asp Ala His Val  
1060 1065 1070

Val Cys Gln Lys Leu Gly Cys Gly Val Ala Phe Asn Ala Thr Val Ser  
1075 1080 1085

Ala His Phe Gly Glu Gly Ser Gly Pro Ile Trp Leu Asp Asp Leu Asn  
1090 1095 1100

Cys Thr Gly Thr Glu Ser His Leu Trp Gln Cys Pro Ser Arg Gly Trp  
1105 1110 1115 1120

Gly Gln His Asp Cys Arg His Lys Glu Asp Ala Gly Val Ile Cys Ser  
1125 1130 1135

Glu Phe Thr Ala Leu Arg Leu Tyr Ser Glu Thr Glu Thr Glu Ser Cys  
1140 1145 1150

Ala Gly Arg Leu Glu Val Phe Tyr Asn Gly Thr Trp Gly Ser Val Gly  
1155 1160 1165

Arg Arg Asn Ile Thr Thr Ala Ile Ala Gly Ile Val Cys Arg Gln Leu  
1170 1175 1180

Gly Cys Gly Glu Asn Gly Val Val Ser Leu Ala Pro Leu Ser Lys Thr  
1185 1190 1195 1200

Gly Ser Gly Phe Met Trp Val Asp Asp Ile Gln Cys Pro Lys Thr His  
1205 1210 1215

Ile Ser Ile Trp Gln Cys Leu Ser Ala Pro Trp Glu Arg Arg Ile Ser  
1220 1225 1230

Ser Pro Ala Glu Glu Thr Trp Ile Thr Cys Glu Asp Arg Ile Arg Val  
1235 1240 1245

Arg Gly Gly Asp Thr Glu Cys Ser Gly Arg Val Glu Ile Trp His Ala

1250                    1255                    1260  
Gly Ser Trp Gly Thr Val Cys Asp Asp Ser Trp Asp Leu Ala Glu Ala  
1265                    1270                    1275                    1280  
Glu Val Val Cys Gln Gln Leu Gly Cys Gly Ser Ala Leu Ala Ala Leu  
1285                    1290                    1295  
Arg Asp Ala Ser Phe Gly Gln Gly Thr Gly Thr Ile Trp Leu Asp Asp  
1300                    1305                    1310  
Met Arg Cys Lys Gly Asn Glu Ser Phe Leu Trp Asp Cys His Ala Lys  
1315                    1320                    1325  
Pro Trp Gly Gln Ser Asp Cys Gly His Lys Glu Asp Ala Gly Val Arg  
1330                    1335                    1340  
Cys Ser Gly Gln Ser Leu Lys Ser Leu Asn Ala Ser Ser Gly His Leu  
1345                    1350                    1355                    1360  
Ala Leu Ile Leu Ser Ser Ile Phe Gly Leu Leu Leu Val Leu Phe  
1365                    1370                    1375  
Ile Leu Phe Leu Thr Trp Cys Arg Val Gln Lys Gln Lys His Leu Pro  
1380                    1385                    1390  
Leu Arg Val Ser Thr Arg Arg Gly Ser Leu Glu Glu Asn Leu Phe  
1395                    1400                    1405  
His Glu Met Glu Thr Cys Leu Lys Arg Glu Asp Pro His Gly Thr Arg  
1410                    1415                    1420  
Thr Ser Asp Asp Thr Pro Asn His Gly Cys Glu Asp Ala Ser Asp Thr  
1425                    1430                    1435                    1440  
Ser Leu Leu Gly Val Leu Pro Ala Ser Glu Ala Thr Lys  
1445                    1450

<210> 12  
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<212> PRT  
<213> Homo sapiens

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Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu  
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Asn Ser Cys Phe Leu Ile Ser Ser  
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<210> 13  
<211> 1413  
<212> PRT  
<213> Homo sapiens

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Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln  
35 40 45

Leu Gly Cys Pro Phe Ser Phe Ala Met Phe Arg Phe Gly Gln Ala Val  
50 55 60

Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn  
65 70 75 80

Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn  
85 90 95

Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn  
100 105 110

Leu Gly Leu Arg Leu Val Asp Gly Asn Asn Ser Cys Ser Gly Arg Val  
115 120 125

Glu Val Lys Phe Gln Glu Arg Trp Gly Thr Ile Cys Asp Asp Gly Trp  
130 135 140

Asn Leu Asn Thr Ala Ala Val Val Cys Arg Gln Leu Gly Cys Pro Ser  
145 150 155 160

Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro  
165 170 175

Ile Trp Leu Asp Asp Ile Leu Cys Gln Gly Asn Glu Leu Ala Leu Trp  
180 185 190

Asn Cys Arg His Arg Gly Trp Gly Asn His Asp Cys Ser His Asn Glu  
195 200 205

Asp Val Thr Leu Thr Cys Tyr Asp Ser Ser Asp Leu Glu Leu Arg Leu  
210 215 220

Val Gly Gly Thr Asn Arg Cys Met Gly Arg Val Glu Leu Lys Ile Gln  
225 230 235 240

Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala  
245 250 255

Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala  
260 265 270

Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly  
275 280 285

Val Ser Cys Ser Gly Asn Glu Ser Phe Leu Trp Asp Cys Arg His Ser  
290 295 300

Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile  
305 310 315 320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn  
325 330 335

Asn Cys Ser Gly Arg Val Glu Val Arg Ile His Glu Gln Trp Trp Thr  
340 345 350

Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys  
355 360 365

Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro  
370 375 380

Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly  
385 390 395 400

Asn Glu Ser Ala Leu Trp Asp Cys Thr Tyr Asp Gly Lys Ala Lys Arg  
405 410 415

Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala  
420 425 430

Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg  
435 440 445

Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg  
450 455 460

Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly  
465 470 475 480

Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly  
485 490 495

Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile  
500 505 510

Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg  
515 520 525

Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg  
530 535 540

Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe  
545 550 555 560

Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala  
565 570 575

Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly  
580 585 590

Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp  
595 600 605

Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn  
610 615 620

Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val  
625 630 635 640

Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser  
645 650 655

Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly  
660 665 670

Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys  
675 680 685

Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His  
690 695 700

Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr  
705 710 715 720

Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln  
725 730 735

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His  
740 745 750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val  
755 760 765

Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe  
770 775 780

Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp  
785 790 795 800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu  
805 810 815

Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala  
820 825 830

Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg  
835 840 845

Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn  
850 855 860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His  
865 870 875 880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val  
885 890 895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly  
900 905 910

Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His  
915 920 925

Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu  
930 935 940

Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr  
945 950 955 960

Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp  
965 970 975

Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu  
980 985 990

Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg  
995 1000 1005

Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly  
1010 1015 1020

Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly  
1025 1030 1035 1040

Val Ala Phe Asn Ala Thr Val Ser Ala His Phe Gly Glu Gly Ser Gly  
1045 1050 1055

Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu  
1060 1065 1070

Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys  
1075 1080 1085

Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr  
1090 1095 1100

Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr  
1105 1110 1115 1120

Asn Gly Thr Trp Gly Ser Val Gly Arg Arg Asn Ile Thr Thr Ala Ile  
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Ala Gly Ile Val Cys Arg Gln Leu Gly Cys Gly Glu Asn Gly Val Val  
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Ala Pro Trp Glu Arg Arg Ile Ser Ser Pro Ala Glu Glu Thr Trp Ile  
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Thr Gly Thr Ile Trp Leu Asp Asp Met Arg Cys Lys Gly Asn Glu Ser  
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Phe Leu Trp Asp Cys His Ala Lys Pro Trp Gly Gln Ser Asp Cys Gly  
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Gly Leu Leu Leu Leu Val Leu Phe Ile Leu Phe Leu Thr Trp Cys Arg  
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Val Gln Lys Gln Lys His Leu Pro Leu Arg Val Ser Thr Arg Arg Arg  
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Gly Ser Leu Glu Glu Asn Leu Phe His Glu Met Glu Thr Cys Leu Lys  
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Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln  
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Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn  
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Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn  
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Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn  
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Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro  
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Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala  
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Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala

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Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly  
275                    280                    285

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Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile  
305                    310                    315                    320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn  
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Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys  
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Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro  
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Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly  
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Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala  
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Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg  
435                    440                    445

Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg  
450                    455                    460

Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly  
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Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly  
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Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile  
500                    505                    510

Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg

515

520

525

Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg  
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Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe  
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Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala  
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Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly  
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Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp  
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Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn  
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Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val  
625 630 635 640

Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser  
645 650 655

Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly  
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Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys  
675 680 685

Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His  
690 695 700

Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr  
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Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln  
725 730 735

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His  
740 745 750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val  
755 760 765

Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe

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Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp  
785                    790                    795                    800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu  
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Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala  
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Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg  
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Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn  
850                    855                    860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His  
865                    870                    875                    880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val  
885                    890                    895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly  
900                    905                    910

Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His  
915                    920                    925

Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu  
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Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr  
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Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp  
965                    970                    975

Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu  
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Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg  
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Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly  
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Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly

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Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu  
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Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys  
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Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr  
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Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr  
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1185                    1190                    1195                    1200  
  
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Cys Gly Ser Ala Leu Ala Ala Leu Arg Asp Ala Ser Phe Gly Gln Gly  
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Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe  
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Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala  
65 70 75 80

Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg  
85 90 95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu  
100 105 110

Cys Ala Phe Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile  
115 120 125

Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly Thr  
130 135 140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr  
145 150 155 160

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Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly Met  
180 185 190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu  
195 200 205

Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu  
210 215 220

Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr  
225 230 235 240

Gln Val Val Tyr Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe  
245 250 255

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260 265 270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys  
275 280 285

Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val Ile  
290 295 300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His Ile  
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Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser  
325 330 335

Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys Gly  
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Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg  
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Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro Ser  
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Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu  
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Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr  
405 410 415

Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His Leu  
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Val Met Tyr Leu Gly Thr Thr Gly Ser Leu His Lys Ala Val Val  
435 440 445

Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe Pro  
450 455 460

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Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro  
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Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln Ser  
545 550 555 560

Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile Leu  
565 570 575

Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp Ser  
580 585 590

His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn Gly  
595 600 605

Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys  
610 615 620

Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val  
625 630 635 640

Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile  
645 650 655

Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala  
660 665 670

Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr  
675 680 685

Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala  
690 695 700

Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu  
705 710 715 720

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu  
725 730 735

Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp  
740 745 750

Asn Asn Cys Leu Gly Thr Glu Val Ala  
755 760

<210> 20  
<211> 31  
<212> PRT  
<213> Homo sapiens

<400> 20  
Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu  
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Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr Ala  
20 25 30

<210> 21  
<211> 730  
<212> PRT  
<213> Homo sapiens

<400> 21  
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly  
1 5 10 15

Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp  
20 25 30

Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly  
35 40 45

Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro  
50 55 60

Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser  
65 70 75 80

Glu	Cys	Ala	Phe	Lys	Lys	Ser	Asn	Glu	Thr	Gln	Cys	Phe	Asn	Phe	
85								90						95	
Ile	Arg	Val	Leu	Val	Ser	Tyr	Asn	Val	Thr	His	Leu	Tyr	Thr	Cys	Gly
100								105						110	
Thr	Phe	Ala	Phe	Ser	Pro	Ala	Cys	Thr	Phe	Ile	Glu	Leu	Gln	Asp	Ser
115								120						125	
Tyr	Leu	Leu	Pro	Ile	Ser	Glu	Asp	Lys	Val	Met	Glu	Gly	Lys	Gly	Gln
130								135						140	
Ser	Pro	Phe	Asp	Pro	Ala	His	Lys	His	Thr	Ala	Val	Leu	Val	Asp	Gly
145								150						155	
Met	Leu	Tyr	Ser	Gly	Thr	Met	Asn	Asn	Phe	Leu	Gly	Ser	Glu	Pro	Ile
165								170						175	
Leu	Met	Arg	Thr	Leu	Gly	Ser	Gln	Pro	Val	Leu	Lys	Thr	Asp	Asn	Phe
180								185						190	
Leu	Arg	Trp	Leu	His	His	Asp	Ala	Ser	Phe	Val	Ala	Ala	Ile	Pro	Ser
195								200						205	
Thr	Gln	Val	Val	Tyr	Phe	Phe	Glu	Glu	Thr	Ala	Ser	Glu	Phe	Asp	
210								215						220	
Phe	Phe	Glu	Arg	Leu	His	Thr	Ser	Arg	Val	Ala	Arg	Val	Cys	Lys	Asn
225								230						235	
Asp	Val	Gly	Gly	Glu	Lys	Leu	Leu	Gln	Lys	Lys	Trp	Thr	Thr	Phe	Leu
245								250						255	
Lys	Ala	Gln	Leu	Leu	Cys	Thr	Gln	Pro	Gly	Gln	Leu	Pro	Phe	Asn	Val
260								265						270	
Ile	Arg	His	Ala	Val	Leu	Leu	Pro	Ala	Asp	Ser	Pro	Thr	Ala	Pro	His
275								280						285	
Ile	Tyr	Ala	Val	Phe	Thr	Ser	Gln	Trp	Gln	Val	Gly	Gly	Thr	Arg	Ser
290								295						300	
Ser	Ala	Val	Cys	Ala	Phe	Ser	Leu	Leu	Asp	Ile	Glu	Arg	Val	Phe	Lys
305								310						315	
Gly	Lys	Tyr	Lys	Glu	Leu	Asn	Lys	Glu	Thr	Ser	Arg	Trp	Thr	Thr	Tyr
325								330						335	

Arg	Gly	Pro	Glu	Thr	Asn	Pro	Arg	Pro	Gly	Ser	Cys	Ser	Val	Gly	Pro
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Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp															
355															365
Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr															
370															380
Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His															
385															400
Leu Val Met Tyr Leu Gly Thr Thr Gly Ser Leu His Lys Ala Val															
405															415
Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe															
420															430
Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly															
435															445
Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala															
450															460
Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp															
465															480
Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser															
485															495
Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro															
500															510
Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln															
515															525
Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile															
530															540
Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp															
545															560
Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn															
565															575
Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln															
580															590

Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp  
595 600 605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly  
610 615 620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly  
625 630 635 640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val  
645 650 655

Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val  
660 665 670

Ala Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys  
675 680 685

Glu Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His  
690 695 700

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala  
705 710 715 720

Asp Asn Asn Cys Leu Gly Thr Glu Val Ala  
725 730

<210> 22  
<211> 652  
<212> PRT  
<213> Homo sapiens

<400> 22  
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly  
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Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp  
20 25 30

Phe Asp Thr Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly  
35 40 45

Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro  
50 55 60

Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser  
65 70 75 80

Glu	Cys	Ala	Phe	Lys	Lys	Ser	Asn	Glu	Thr	Gln	Cys	Phe	Asn	Phe
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Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly														
100								105						110
Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser														
115								120						125
Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln														
130								135						140
Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly														
145								150						160
Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile														
165								170						175
Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe														
180								185						190
Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Pro Ser														
195								200						205
Thr Gln Val Val Tyr Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp														
210								215						220
Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn														
225								230						240
Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu														
245								250						255
Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val														
260								265						270
Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His														
275								280						285
Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser														
290								295						300
Ser Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys														
305								310						320
Gly Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr														
325								330						335

Arg Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro  
340 345 350

Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp  
355 360 365

Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr  
370 375 380

Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His  
385 390 395 400

Leu Val Met Tyr Leu Gly Thr Thr Gly Ser Leu His Lys Ala Val  
405 410 415

Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe  
420 425 430

Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly  
435 440 445

Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala  
450 455 460

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp  
465 470 475 480

Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser  
485 490 495

Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro  
500 505 510

Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln  
515 520 525

Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile  
530 535 540

Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp  
545 550 555 560

Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn  
565 570 575

Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln  
580 585 590

Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp  
595 600 605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly  
610 615 620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly  
625 630 635 640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His  
645 650

<210> 23

<211> 21

<212> PRT

<213> Homo sapiens

<400> 23

Phe Val Thr Val Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu  
1 5 10 15

Ile Ile Leu Val Ala  
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<210> 24

<211> 57

<212> PRT

<213> Homo sapiens

<400> 24

Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu  
1 5 10 15

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu  
20 25 30

Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp  
35 40 45

Asn Asn Cys Leu Gly Thr Glu Val Ala  
50 55

<210> 25

<211> 2964

<212> DNA

<213> Homo sapiens

<400> 25

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ggacgcgagg agccatgagg cgccagcctg cgaagggtggc ggcgtctg ctcggctgc 180  
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ccatacagag gctgtggta ttctggttcc ttctgtatgt gggcgtgctt ttctgtgcg 360  
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cccacgtgca agaggagaga caggagaggg cttttccctg gcctttctgt ctctgttat 720  
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<210> 26  
<211> 516  
<212> DNA  
<213> Homo sapiens

<400> 26  
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tcctacgagg actgctgtgg ctccaggtgc tgtgtgcggg ccctctccat acagaggctg 180  
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cctccgcccc cgtacgaaca ggttgtgaag gccaag 516

<210> 27  
<211> 172  
<212> PRT  
<213> Homo sapiens

<400> 27  
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20 25 30

Tyr Pro Thr Tyr Tyr Ile Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser  
35 40 45

Arg Cys Cys Val Arg Ala Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp  
50 55 60

Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly Ala Gly Phe Phe  
65 70 75 80

Ile Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe  
85 90 95

Asn Val Ser Tyr Thr Arg Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln  
100 105 110

Gln Pro Gly Pro Pro Tyr Tyr Asp Pro Gly Gly Pro Gly Met Asn  
115 120 125

Pro Val Gly Asn Ser Met Ala Met Ala Phe Gln Val Pro Pro Asn Ser  
130 135 140

Pro Gln Gly Ser Val Ala Cys Pro Pro Pro Ala Tyr Cys Asn Thr  
145 150 155 160

Pro Pro Pro Pro Tyr Glu Gln Val Val Lys Ala Lys  
165 170

<210> 28

<211> 22

<212> PRT

<213> Homo sapiens

<400> 28

Met Arg Arg Gln Pro Ala Lys Val Ala Ala Leu Leu Leu Gly Leu Leu  
1 5 10 15

Leu Glu Cys Thr Glu Ala  
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<210> 29

<211> 150

<212> PRT

<213> Homo sapiens

<400> 29

Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile  
1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala  
20 25 30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly  
35 40 45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr  
50 55 60

Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe Asn Val Ser Tyr Thr Arg  
65 70 75 80

Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln Gln Pro Gly Pro Pro Tyr  
85 90 95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Ser Met  
100 105 110

Ala Met Ala Phe Gln Val Pro Pro Asn Ser Pro Gln Gly Ser Val Ala  
115 120 125

Cys Pro Pro Pro Ala Tyr Cys Asn Thr Pro Pro Pro Pro Tyr Glu  
130 135 140

Gln Val Val Lys Ala Lys  
145 150

<210> 30

<211> 38

<212> PRT

<213> Homo sapiens

<400> 30

Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile  
1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala  
20 25 30

Leu Ser Ile Gln Arg Leu  
35

<210> 31

<211> 21

<212> PRT

<213> Homo sapiens

<400> 31

Trp Tyr Phe Trp Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly  
1 5 10 15

Ala Gly Phe Phe Ile  
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<210> 32  
<211> 91  
<212> PRT  
<213> Homo sapiens

<400> 32

Arg	Arg	Arg	Met	Tyr	Pro	Pro	Pro	Leu	Ile	Glu	Glu	Pro	Ala	Phe	Asn
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Val	Ser	Tyr	Thr	Arg	Gln	Pro	Pro	Asn	Pro	Gly	Pro	Gly	Ala	Gln	Gln
	20					25						30			
Pro	Gly	Pro	Pro	Tyr	Tyr	Thr	Asp	Pro	Gly	Gly	Pro	Gly	Met	Asn	Pro
	35					40					45				
Val	Gly	Asn	Ser	Met	Ala	Met	Ala	Phe	Gln	Val	Pro	Pro	Asn	Ser	Pro
	50				55				60						
Gln	Gly	Ser	Val	Ala	Cys	Pro	Pro	Pro	Ala	Tyr	Cys	Asn	Thr	Pro	
	65				70				75			80			
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	85					90									

<210> 33  
<211> 1980  
<212> DNA  
<213> Homo sapiens

<400> 33

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cccagaaggg aaagacagta cacactggaa ttgtaaagcc cttgtgaatt gcttaggcag 1620  
aaagtttct ttcttaagcc ttcaggaacc cagaataagg cagactctgt taaagggata 1680  
aatagaggtg tctgaatgtg agtgtatgca tgctgcgtgt gtctgtgtt atgtttgtt 1740  
gtttgttgg ggcaagaaaag attctaggac aagagctagg catgtactt tgaccagggtg 1800  
ggttaagcaac tctaagtctg tattttgtatt ggtcatttctc agtggaaatc ccttaggccc 1860  
tcttagtggtt ttcccctacc tgcataattgg tttcatgtt ttatattcac tgttactatc 1920  
ttctgtgttt aattaaaatt gttttctatc aaaaaaaaaa aaaaaaaaaa gggcgccgc 1980

<210> 34  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 34  
atgtgtacaa agacaatccc agtcctctgg ggatgtttcc tcctgtggaa tctctatgtc 60  
tcatcctctc agaccattta ccctggaaatc aaggcaagga ttactcagag ggcacttgac 120  
tatgggttca aagctggaat gaagatgatt gagcaatgc taaaagaaaa gaaactccca 180  
gatttaagcg gttctgagtc tcttgaattt ctaaaagttt attatgtaaa ctacaatttt 240  
tcaaataaa aaatcagtgc ctttcattt ccaaataacct cattggctt tgccttgaa 300  
gtgggaatca aagcgtaac caaccatggc actgccaaca tcagcacaga ctgggggttc 360  
gagtctccac ttttgttct gtataactcc tttgtgagc ccatggagaa acccattttt 420  
aagaacttaa atgaaatgct ctgtcccatt attgcaagtg aagtcaaagc gctaaatgcc 480  
aacctcagca cactggaggt ttaaccaag attgacaact acactctgtt ggattactcc 540  
ctaatacgatc ctccagaaat tactgagaac taccttgacc tgaacttgaa gggtgtattc 600  
tacccactgg aaaacccctac cgacccccc ttctcaccag tccctttgt gctccagaa 660  
cgccagcaact ccatgtctc cattggaaatc gccgagtatt tctttaatc tgcgtcctt 720  
gctcatttca cagctgggtt tttcaatctc actctctcca ccgaagagat ttccaaaccat 780  
tttggtaaa actctcaagg ctttggcaac gtgtctccc ggattgcaga gatctacatc 840  
ttgtcccaggc cttcatggt gaggatcatg gccacagagc ctcccataat caatctacaa 900  
ccaggcaatt tcaccctggc catccctgccc tccatcatga tgctcaccat acccaagaac 960  
tccacagttt aaaccatcgat ttccatggac ttctgtgtt gtaccagtgt tggcctgggtt 1020  
attttggac aaagactggt ctgtcccttgc tcttgcataa gattccgcct tgcttgcac 1080  
gagtccaaatc gcagcaacat tgaggtcttg aggtttgaaa atattctatc gtccattttt 1140  
caatttggag tccctccact ggccaaatgca aaattgcagc aaggatttcc tctgcccataat 1200  
ccacacaaaat tcttattcgat caattcagat attgaagtgc ttgagggtt cttttgattt 1260  
tccaccgacc tgaagtatga aacatcctca aagcagcagc caagttcca cgtatggaa 1320  
ggtctgaacc tgataagcag acagtggagg gggaaagtgc cccct 1365

<210> 35  
<211> 455  
<212> PRT  
<213> Homo sapiens

<400> 35  
Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp  
1 5 10 15  
  
Asn Leu Tyr Val Ser Ser Ser Gln Thr Ile Tyr Pro Gly Ile Lys Ala  
20 25 30  
  
Arg Ile Thr Gln Arg Ala Leu Asp Tyr Gly Val Gln Ala Gly Met Lys  
35 40 45  
  
Met Ile Glu Gln Met Leu Lys Glu Lys Lys Leu Pro Asp Leu Ser Gly  
50 55 60  
  
Ser Glu Ser Leu Glu Phe Leu Lys Val Asp Tyr Val Asn Tyr Asn Phe  
65 70 75 80  
  
Ser Asn Ile Lys Ile Ser Ala Phe Ser Phe Pro Asn Thr Ser Leu Ala  
85 90 95  
  
Phe Val Pro Gly Val Gly Ile Lys Ala Leu Thr Asn His Gly Thr Ala  
100 105 110  
  
Asn Ile Ser Thr Asp Trp Gly Phe Glu Ser Pro Leu Phe Val Leu Tyr  
115 120 125  
  
Asn Ser Phe Ala Glu Pro Met Glu Lys Pro Ile Leu Lys Asn Leu Asn  
130 135 140  
  
Glu Met Leu Cys Pro Ile Ile Ala Ser Glu Val Lys Ala Leu Asn Ala  
145 150 155 160  
  
Asn Leu Ser Thr Leu Glu Val Leu Thr Lys Ile Asp Asn Tyr Thr Leu  
165 170 175  
  
Leu Asp Tyr Ser Leu Ile Ser Ser Pro Glu Ile Thr Glu Asn Tyr Leu  
180 185 190  
  
Asp Leu Asn Leu Lys Gly Val Phe Tyr Pro Leu Glu Asn Leu Thr Asp  
195 200 205  
  
Pro Pro Phe Ser Pro Val Pro Phe Val Leu Pro Glu Arg Ser Asn Ser  
210 215 220

Met Leu Tyr Ile Gly Ile Ala Glu Tyr Phe Phe Lys Ser Ala Ser Phe  
225 230 235 240

Ala His Phe Thr Ala Gly Val Phe Asn Leu Thr Leu Ser Thr Glu Glu  
245 250 255

Ile Ser Asn His Phe Val Gln Asn Ser Gln Gly Leu Gly Asn Val Leu  
260 265 270

Ser Arg Ile Ala Glu Ile Tyr Ile Leu Ser Gln Pro Phe Met Val Arg  
275 280 285

Ile Met Ala Thr Glu Pro Pro Ile Ile Asn Leu Gln Pro Gly Asn Phe  
290 295 300

Thr Leu Asp Ile Pro Ala Ser Ile Met Met Leu Thr Gln Pro Lys Asn  
305 310 315 320

Ser Thr Val Glu Thr Ile Val Ser Met Asp Phe Val Ala Ser Thr Ser  
325 330 335

Val Gly Leu Val Ile Leu Gly Gln Arg Leu Val Cys Ser Leu Ser Leu  
340 345 350

Asn Arg Phe Arg Leu Ala Leu Pro Glu Ser Asn Arg Ser Asn Ile Glu  
355 360 365

Val Leu Arg Phe Glu Asn Ile Leu Ser Ser Ile Leu His Phe Gly Val  
370 375 380

Leu Pro Leu Ala Asn Ala Lys Leu Gln Gln Gly Phe Pro Leu Pro Asn  
385 390 395 400

Pro His Lys Phe Leu Phe Val Asn Ser Asp Ile Glu Val Leu Glu Gly  
405 410 415

Phe Leu Leu Ile Ser Thr Asp Leu Lys Tyr Glu Thr Ser Ser Lys Gln  
420 425 430

Gln Pro Ser Phe His Val Trp Glu Gly Leu Asn Leu Ile Ser Arg Gln  
435 440 445

Trp Arg Gly Lys Ser Ala Pro  
450 455

<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 36  
Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp  
1 5 10 15  
  
Asn Leu Tyr Val Ser Ser Ser  
20

<210> 37  
<211> 432  
<212> PRT  
<213> Homo sapiens

<400> 37  
Gln Thr Ile Tyr Pro Gly Ile Lys Ala Arg Ile Thr Gln Arg Ala Leu  
1 5 10 15

Asp Tyr Gly Val Gln Ala Gly Met Lys Met Ile Glu Gln Met Leu Lys  
20 25 30

Glu Lys Lys Leu Pro Asp Leu Ser Gly Ser Glu Ser Leu Glu Phe Leu  
35 40 45

Lys Val Asp Tyr Val Asn Tyr Asn Phe Ser Asn Ile Lys Ile Ser Ala  
50 55 60

Phe Ser Phe Pro Asn Thr Ser Leu Ala Phe Val Pro Gly Val Gly Ile  
65 70 75 80

Lys Ala Leu Thr Asn His Gly Thr Ala Asn Ile Ser Thr Asp Trp Gly  
85 90 95

Phe Glu Ser Pro Leu Phe Val Leu Tyr Asn Ser Phe Ala Glu Pro Met  
100 105 110

Glu Lys Pro Ile Leu Lys Asn Leu Asn Glu Met Leu Cys Pro Ile Ile  
115 120 125

Ala Ser Glu Val Lys Ala Leu Asn Ala Asn Leu Ser Thr Leu Glu Val  
130 135 140

Leu Thr Lys Ile Asp Asn Tyr Thr Leu Leu Asp Tyr Ser Leu Ile Ser  
145 150 155 160

Ser Pro Glu Ile Thr Glu Asn Tyr Leu Asp Leu Asn Leu Lys Gly Val  
165 170 175

Phe Tyr Pro Leu Glu Asn Leu Thr Asp Pro Pro Phe Ser Pro Val Pro  
180 185 190

Phe Val Leu Pro Glu Arg Ser Asn Ser Met Leu Tyr Ile Gly Ile Ala  
195 200 205

Glu Tyr Phe Phe Lys Ser Ala Ser Phe Ala His Phe Thr Ala Gly Val  
210 215 220

Phe Asn Leu Thr Leu Ser Thr Glu Glu Ile Ser Asn His Phe Val Gln  
225 230 235 240

Asn Ser Gln Gly Leu Gly Asn Val Leu Ser Arg Ile Ala Glu Ile Tyr  
245 250 255

Ile Leu Ser Gln Pro Phe Met Val Arg Ile Met Ala Thr Glu Pro Pro  
260 265 270

Ile Ile Asn Leu Gln Pro Gly Asn Phe Thr Leu Asp Ile Pro Ala Ser  
275 280 285

Ile Met Met Leu Thr Gln Pro Lys Asn Ser Thr Val Glu Thr Ile Val  
290 295 300

Ser Met Asp Phe Val Ala Ser Thr Ser Val Gly Leu Val Ile Leu Gly  
305 310 315 320

Gln Arg Leu Val Cys Ser Leu Ser Leu Asn Arg Phe Arg Leu Ala Leu  
325 330 335

Pro Glu Ser Asn Arg Ser Asn Ile Glu Val Leu Arg Phe Glu Asn Ile  
340 345 350

Leu Ser Ser Ile Leu His Phe Gly Val Leu Pro Leu Ala Asn Ala Lys  
355 360 365

Leu Gln Gln Gly Phe Pro Leu Pro Asn Pro His Lys Phe Leu Phe Val  
370 375 380

Asn Ser Asp Ile Glu Val Leu Glu Gly Phe Leu Leu Ile Ser Thr Asp  
385 390 395 400

Leu Lys Tyr Glu Thr Ser Ser Lys Gln Gln Pro Ser Phe His Val Trp  
405 410 415

Glu Gly Leu Asn Leu Ile Ser Arg Gln Trp Arg Gly Lys Ser Ala Pro  
420 425 430

<210> 38  
<211> 483  
<212> PRT  
<213> Homo sapiens

<400> 38  
Met Ala Arg Gly Pro Cys Asn Ala Pro Arg Trp Val Ser Leu Met Val  
1 5 10 15

Leu Val Ala Ile Gly Thr Ala Val Thr Ala Ala Val Asn Pro Gly Val  
20 25 30

Val Val Arg Ile Ser Gln Lys Gly Leu Asp Tyr Ala Ser Gln Gln Gly  
35 40 45

Thr Ala Ala Leu Gln Lys Glu Leu Lys Arg Ile Lys Ile Pro Asp Tyr  
50 55 60

Ser Asp Ser Phe Lys Ile Lys His Leu Gly Lys Gly His Tyr Ser Phe  
65 70 75 80

Tyr Ser Met Asp Ile Arg Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser  
85 90 95

Met Val Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile  
100 105 110

Lys Ile Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser  
115 120 125

Gly Asn Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu  
130 135 140

Lys Leu Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser  
145 150 155 160

Ser Cys Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser  
165 170 175

Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala  
180 185 190

Leu	Arg	Asn	Lys	Met	Asn	Ser	Gln	Val	Cys	Glu	Lys	Val	Thr	Asn	Ser
195															205
Val	Ser	Ser	Lys	Leu	Gln	Pro	Tyr	Phe	Gln	Thr	Leu	Pro	Val	Met	Thr
210															220
Lys	Ile	Asp	Ser	Val	Ala	Gly	Ile	Asn	Tyr	Gly	Leu	Val	Ala	Pro	Pro
225															240
Ala	Thr	Thr	Ala	Glu	Thr	Leu	Asp	Val	Gln	Met	Lys	Gly	Glu	Phe	Tyr
	245														255
Ser	Glu	Asn	His	His	Asn	Pro	Pro	Pro	Phe	Ala	Pro	Pro	Val	Met	Glu
	260														270
Phe	Pro	Ala	Ala	His	Asp	Arg	Met	Val	Tyr	Leu	Gly	Leu	Ser	Asp	Tyr
	275														285
Phe	Phe	Asn	Thr	Ala	Gly	Leu	Val	Tyr	Gln	Glu	Ala	Gly	Val	Leu	Lys
	290														300
Met	Thr	Leu	Arg	Asp	Asp	Met	Ile	Pro	Lys	Glu	Ser	Lys	Phe	Arg	Leu
	305														320
Thr	Thr	Lys	Phe	Phe	Gly	Thr	Phe	Leu	Pro	Glu	Val	Ala	Lys	Lys	Phe
	325														335
Pro	Asn	Met	Lys	Ile	Gln	Ile	His	Val	Ser	Ala	Ser	Thr	Pro	Pro	His
	340														350
Leu	Ser	Val	Gln	Pro	Thr	Gly	Leu	Thr	Phe	Tyr	Pro	Ala	Val	Asp	Val
	355														365
Gln	Ala	Phe	Ala	Val	Leu	Pro	Asn	Ser	Ser	Leu	Ala	Ser	Leu	Phe	Leu
	370														380
Ile	Gly	Met	His	Thr	Thr	Gly	Ser	Met	Glu	Val	Ser	Ala	Glu	Ser	Asn
	385														400
Arg	Leu	Val	Gly	Glu	Leu	Lys	Leu	Asp	Arg	Leu	Leu	Glu	Leu	Lys	
	405														415
His	Ser	Asn	Ile	Gly	Pro	Phe	Pro	Val	Glu	Leu	Leu	Gln	Asp	Ile	Met
	420														430
Asn	Tyr	Ile	Val	Pro	Ile	Leu	Val	Leu	Pro	Arg	Val	Asn	Glu	Lys	Leu
	435														445

Gln Lys Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn  
450 455 460

Val Val Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val  
465 470 475 480

Val Tyr Lys

<210> 39

<211> 481

<212> PRT

<213> Homo sapiens

<400> 39

Met Gly Ala Leu Ala Arg Ala Leu Pro Ser Ile Leu Leu Ala Leu Leu  
1 5 10 15

Leu Thr Ser Thr Pro Glu Ala Leu Gly Ala Asn Pro Gly Leu Val Ala  
20 25 30

Arg Ile Thr Asp Lys Gly Leu Gln Tyr Ala Ala Gln Glu Gly Leu Leu  
35 40 45

Ala Leu Gln Ser Glu Leu Leu Arg Ile Thr Leu Pro Asp Phe Thr Gly  
50 55 60

Asp Leu Arg Ile Pro His Val Gly Arg Gly Arg Tyr Glu Phe His Ser  
65 70 75 80

Leu Asn Ile His Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser Met Val  
85 90 95

Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile Lys Ile  
100 105 110

Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser Gly Asn  
115 120 125

Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu Lys Leu  
130 135 140

Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser Ser Cys  
145 150 155 160

Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser Lys Val

165                    170                    175

Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala Leu Arg  
180                    185                    190

Asn Lys Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser Val Ser  
195                    200                    205

Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr Lys Ile  
210                    215                    220

Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro Ala Thr  
225                    230                    235                    240

Thr Ala Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr Ser Glu  
245                    250                    255

Asn His His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu Phe Pro  
260                    265                    270

Ala Ala His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr Phe Phe  
275                    280                    285

Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys Met Thr  
290                    295                    300

Leu Arg Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu Thr Thr  
305                    310                    315                    320

Lys Phe Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe Pro Asn  
325                    330                    335

Met Lys Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His Leu Ser  
340                    345                    350

Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val Gln Ala  
355                    360                    365

Leu Ala Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu Ile Gly  
370                    375                    380

Met His Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn Arg Leu  
385                    390                    395                    400

Val Gly Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys His Ser  
405                    410                    415

Asn Ile Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met Asn Tyr

420

425

430

Ile Val Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu Gln Lys  
435 440 445

Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn Val Val  
450 455 460

Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val Val Tyr  
465 470 475 480

Lys

<210> 40

<211> 383

<212> PRT

<213> Caenorhabditis elegans

<400> 40

Met Arg Ile Ala His Ala Ser Ser Arg Gly Asn Ile Ser Ile Phe Ser  
1 5 10 15

Val Phe Leu Ile Pro Leu Ile Ala Tyr Ile Leu Ile Leu Pro Gly Val  
20 25 30

Arg Arg Lys Arg Val Val Thr Thr Val Thr Tyr Val Leu Met Leu Ala  
35 40 45

Val Gly Gly Ala Leu Ile Ala Ser Leu Ile Tyr Pro Cys Trp Ala Ser  
50 55 60

Gly Ser Gln Met Ile Tyr Thr Gln Phe Arg Gly His Ser Asn Glu Arg  
65 70 75 80

Ile Leu Ala Lys Ile Gly Val Glu Ile Gly Leu Gln Lys Val Asn Val  
85 90 95

Thr Leu Lys Phe Glu Arg Leu Leu Ser Ser Asn Asp Val Leu Pro Gly  
100 105 110

Ser Asp Met Thr Glu Leu Tyr Tyr Asn Glu Gly Phe Asp Ile Ser Gly  
115 120 125

Ile Ser Ser Met Ala Glu Ala Leu His His Gly Leu Glu Asn Gly Leu  
130 135 140

Pro Tyr Pro Met Leu Ser Val Leu Glu Tyr Phe Ser Leu Asn Gln Asp  
145 150 155 160

Ser Phe Asp Trp Gly Arg His Tyr Arg Val Ala Gly His Tyr Thr His  
165 170 175

Ala Ala Ile Trp Phe Ala Phe Ala Cys Trp Cys Leu Ser Val Val Leu  
180 185 190

Met Leu Phe Leu Pro His Asn Ala Tyr Lys Ser Ile Leu Ala Thr Gly  
195 200 205

Ile Ser Cys Leu Ile Ala Cys Leu Val Tyr Leu Leu Ser Pro Cys  
210 215 220

Glu Leu Arg Ile Ala Phe Thr Gly Glu Asn Phe Glu Arg Val Asp Leu  
225 230 235 240

Thr Ala Thr Phe Ser Phe Cys Phe Tyr Leu Ile Phe Ala Ile Gly Ile  
245 250 255

Leu Cys Val Leu Cys Gly Leu Gly Ile Cys Glu His Trp Arg  
260 265 270

Ile Tyr Thr Leu Ser Thr Phe Leu Asp Ala Ser Leu Asp Glu His Val  
275 280 285

Gly Pro Lys Trp Lys Lys Leu Pro Thr Gly Gly Pro Ala Leu Gln Gly  
290 295 300

Val Gln Ile Gly Ala Tyr Gly Thr Asn Thr Thr Asn Ser Ser Arg Asp  
305 310 315 320

Lys Asn Asp Ile Ser Ser Asp Lys Thr Ala Gly Ser Ser Gly Phe Gln  
325 330 335

Ser Arg Thr Ser Thr Cys Gln Ser Ser Ala Ser Ser Ala Ser Leu Arg  
340 345 350

Ser Gln Ser Ser Ile Glu Thr Val His Asp Glu Ala Glu Leu Glu Arg  
355 360 365

Thr His Val His Phe Leu Gln Glu Pro Cys Ser Ser Ser Ser Thr  
370 375 380

<210> 41

<211> 399

<212> PRT

<213> Homo sapiens

<400> 41

Met Lys Met Arg Phe Leu Gly Leu Val Val Cys Leu Val Leu Trp Pro  
1 5 10 15

Leu His Ser Glu Gly Ser Gly Gly Lys Leu Thr Ala Val Asp Pro Glu  
20 25 30

Thr Asn Met Asn Val Ser Glu Ile Ile Ser Tyr Trp Gly Phe Pro Ser  
35 40 45

Glu Glu Tyr Leu Val Glu Thr Glu Asp Gly Tyr Ile Leu Cys Leu Asn  
50 55 60

Arg Ile Pro His Gly Arg Lys Asn His Ser Asp Lys Gly Pro Lys Pro  
65 70 75 80

Val Val Phe Leu Gln His Gly Leu Leu Ala Asp Ser Ser Asn Trp Val  
85 90 95

Thr Asn Leu Ala Asn Ser Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly  
100 105 110

Phe Asp Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Lys  
115 120 125

His Lys Thr Leu Ser Val Ser Gln Asp Glu Phe Trp Ala Phe Ser Tyr  
130 135 140

Asp Glu Met Ala Lys Tyr Asp Leu Pro Ala Ser Ile Asn Phe Ile Leu  
145 150 155 160

Asn Lys Thr Gly Gln Glu Gln Val Tyr Tyr Val Gly His Ser Gln Gly  
165 170 175

Thr Thr Ile Gly Phe Ile Ala Phe Ser Gln Ile Pro Glu Leu Ala Lys  
180 185 190

Arg Ile Lys Met Phe Phe Ala Leu Gly Pro Val Ala Ser Val Ala Phe  
195 200 205

Cys Thr Ser Pro Met Ala Lys Leu Gly Arg Leu Pro Asp His Leu Ile  
210 215 220

Lys Asp Leu Phe Gly Asp Lys Glu Phe Leu Pro Gln Ser Ala Phe Leu  
225 230 235 240

Lys Trp Leu Gly Thr His Val Cys Thr His Val Ile Leu Lys Glu Leu  
245 250 255

Cys Gly Asn Leu Cys Phe Leu Leu Cys Gly Phe Asn Glu Arg Asn Leu  
260 265 270

Asn Met Ser Arg Val Asp Val Tyr Thr Thr His Ser Pro Ala Gly Thr  
275 280 285

Ser Val Gln Asn Met Leu His Trp Ser Gln Ala Val Lys Phe Gln Lys  
290 295 300

Phe Gln Ala Phe Asp Trp Gly Ser Ser Ala Lys Asn Tyr Phe His Tyr  
305 310 315 320

Asn Gln Ser Tyr Pro Pro Thr Tyr Asn Val Lys Asp Met Leu Val Pro  
325 330 335

Thr Ala Val Trp Ser Gly Gly His Asp Trp Leu Ala Asp Val Tyr Asp  
340 345 350

Val Asn Ile Leu Leu Thr Gln Ile Thr Asn Leu Val Phe His Glu Ser  
355 360 365

Ile Pro Glu Trp Glu His Leu Asp Phe Ile Trp Gly Leu Asp Ala Pro  
370 375 380

Trp Arg Leu Tyr Asn Lys Ile Ile Asn Leu Met Arg Lys Tyr Gln  
385 390 395

<210> 42  
<211> 19  
<212> PRT  
<213> Mus sp.

<400> 42  
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu  
1 5 10 15

Thr Leu Ala

<210> 43  
<211> 451  
<212> PRT

<213> Mus sp.

<400> 43

Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys Phe Thr Ala  
1 5 10 15

Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala Leu Gln Gly  
20 25 30

Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro Tyr Asn  
35 40 45

Thr Leu Lys Tyr Pro Asn Gly Glu Gly Leu Gly Glu His Asn Tyr  
50 55 60

Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val Ala Glu  
65 70 75 80

His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala Cys Gln  
85 90 95

Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro Pro Pro  
100 105 110

Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln Thr Cys  
115 120 125

Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met Glu Ser  
130 135 140

Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys His Gly  
145 150 155 160

Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp His Thr  
165 170 175

Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr Leu Val  
180 185 190

Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val Val Tyr Ser  
195 200 205

Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr Trp Thr  
210 215 220

Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe Thr Leu Phe  
225 230 235 240

Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly Tyr Thr		
245	250	255
His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro Pro Leu Ser		
260	265	270
Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser Asp Arg		
275	280	285
Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Thr Lys Glu		
290	295	300
Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu Ala Glu Val		
305	310	315
320		
Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His Ser Ser Lys		
325	330	335
Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro Gln Thr Ala		
340	345	350
Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr Ala Thr Glu		
355	360	365
Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser Ser Ser Gln		
370	375	380
Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His Leu Asn Leu		
385	390	395
400		
Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val Ser Leu Gly		
405	410	415
Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro Leu Gln Ser		
420	425	430
Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys Met Thr Ala		
435	440	445
Ile Pro Ser		
450		

<210> 44  
<211> 150  
<212> PRT  
<213> Mus sp.

<400> 44

Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile  
1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala  
20 25 30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly  
35 40 45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr  
50 55 60

Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe Asn Val Ser Tyr Thr Arg  
65 70 75 80

Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln Gln Met Gly Pro Pro Tyr  
85 90 95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Thr Met  
100 105 110

Ala Met Ala Phe Gln Val Gln Pro Asn Ser Pro His Gly Gly Thr Thr  
115 120 125

Tyr Pro Pro Pro Pro Ser Tyr Cys Asn Thr Pro Pro Pro Pro Tyr Glu  
130 135 140

Gln Val Val Lys Asp Lys  
145 150

<210> 45

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 45

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aaattcttct tactttagaa ttagttgtta cattggcagg aaaaaataaa tgcagatgtt 120  
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ctcagaataaa ggcacacaaa tatagtttgc tctcaggaa gaaaatttttta taggatgttt 1980  
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ccgc 2044

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<211> 1269  
<212> DNA  
<213> Homo sapiens

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gcagatgttgc gtttttgcgtt gtggatgggg aacagcaggg gaaacgcctg gtctcgaaaa 420  
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aggtttgcattt ttcctgcgtt gataaaactttt attttgcataa aaacggggccca ggaaaaagatc 540  
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gagctggctc agaaaatcaaa aatgttattttt gcttttagcactt ccatagccac tttttttttt 660  
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gactggggaa gtgagaccaa aaatctggaa aaatcaatc agccaactcc tgtaaggta 1020  
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gccgttattg 1269

<210> 47

<211> 423

<212> PRT

<213> Homo sapiens

<400> 47

Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu  
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Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn  
20 25 30

Ser Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn  
35 40 45

Ile Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu  
50 55 60

Val Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg  
65 70 75 80

Gly Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu  
85 90 95

Gln His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro  
100 105 110

Asn Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp  
115 120 125

Met Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu  
130 135 140

Ser Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala  
145 150 155 160

Arg Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly  
165 170 175

Gln Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly  
180 185 190

Phe Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met  
195 200 205

Tyr Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro  
210 215 220

Gly Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe  
225 230 235 240

Gly Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val  
245 250 255

Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile  
260 265 270

Met Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg  
275 280 285

Ala Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn  
290 295 300

Ile Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe  
305 310 315 320

Asp Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr  
325 330 335

Pro Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp  
340 345 350

Thr Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu  
355 360 365

Leu Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp  
370 375 380

Ala His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr  
385 390 395 400

Asn Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln  
405 410 415

Gly Arg Cys Glu Ala Val Leu  
420

<210> 48  
<211> 33  
<212> PRT  
<213> Homo sapiens

<400> 48  
Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu  
1 5 10 15

Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn  
20 25 30

Ser

<210> 49  
<211> 390  
<212> PRT  
<213> Homo sapiens

<400> 49  
Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile  
1 5 10 15

Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val  
20 25 30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly  
35 40 45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln  
50 55 60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn  
65 70 75 80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met  
85 90 95

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser  
100 105 110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg  
115 120 125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln

130                    135                    140  
Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe  
145                    150                    155                    160  
  
Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr  
165                    170                    175  
  
Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly  
180                    185                    190  
  
Thr Lys Phe Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly  
195                    200                    205  
  
Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val Ile  
210                    215                    220  
  
Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile Met  
225                    230                    235                    240  
  
Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg Ala  
245                    250                    255  
  
Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn Ile  
260                    265                    270  
  
Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe Asp  
275                    280                    285  
  
Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro  
290                    295                    300  
  
Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp Thr  
305                    310                    315                    320  
  
Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu Leu  
325                    330                    335  
  
Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp Ala  
340                    345                    350  
  
His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr Asn  
355                    360                    365  
  
Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly  
370                    375                    380  
  
Arg Cys Glu Ala Val Leu

385

390

<210> 50

<211> 221

<212> PRT

<213> Homo sapiens

<400> 50

Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile  
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Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val  
20 25 30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly  
35 40 45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln  
50 55 60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn  
65 70 75 80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met  
85 90 95

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser  
100 105 110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg  
115 120 125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln  
130 135 140

Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe  
145 150 155 160

Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr  
165 170 175

Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly  
180 185 190

Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly  
195 200 205

Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln  
210 215 220

<210> 51  
<211> 25  
<212> PRT  
<213> Homo sapiens

<400> 51  
Leu Val Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser  
1 5 10 15

Asn Ile Met Leu Leu Gly Gly Phe  
20 25

<210> 52  
<211> 144  
<212> PRT  
<213> Homo sapiens

<400> 52  
Asn Thr Asn Asn Met Asn Met Ser Arg Ala Ser Val Tyr Ala Ala His  
1 5 10 15

Thr Leu Ala Gly Thr Ser Val Gln Asn Ile Leu His Trp Ser Gln Ala  
20 25 30

Val Asn Ser Gly Glu Leu Arg Ala Phe Asp Trp Gly Ser Glu Thr Lys  
35 40 45

Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro Val Arg Tyr Arg Val Arg  
50 55 60

Asp Met Thr Val Pro Thr Ala Met Trp Thr Gly Gly Gln Asp Trp Leu  
65 70 75 80

Ser Asn Pro Glu Asp Val Lys Met Leu Leu Ser Glu Val Thr Asn Leu  
85 90 95

Ile Tyr His Lys Asn Ile Pro Glu Trp Ala His Val Asp Phe Ile Trp  
100 105 110

Gly Leu Asp Ala Pro His Arg Met Tyr Asn Glu Ile Ile His Leu Met  
115 120 125

Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly Arg Cys Glu Ala Val Leu

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<211> 2133  
<212> DNA  
<213> Homo sapiens

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gatattgggc tgcaaggctgg gctgggtgga gtcaacatca cactcacagg gaccccccgtg 420  
cagcagctga atgagaccat caattacaac gaggagttca cctggccct gggtgagaac 480  
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gctgagaagt tcactccaag aagcccatgt ggcttataacc gccagtagcc cctggcggg 600  
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tttttaaaaaa aaaaaaaaaaa aaagggccggc cgc 2133

<210> 54  
<211> 1029  
<212> DNA  
<213> Homo sapiens

<400> 54  
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atccctgcctg gcattcgggg aaagacgagg ctgttctggc tgcttcgggt ggtgaccagc 180  
ttattcatcg gggctgcaat cctggctgtg aatttcagtt ctgagtggtc tgtggccag 240  
gtcagcacca acacatcata caaggccttc agttctgagt ggatcagcgc tgatattggg 300  
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aatgagacca tcaattacaa cgaggagttc acctggcgcc tgggtgagaa ctatgctgag 420  
gagtgtgcaa aggctctgga gaaggggctg ccagaccctg tgggtgatcc agctgagaag 480  
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ctgctcttct tctccatggc cacatcactc acctcaccct gtcccctgca cctggcg 720  
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tgtgcttta 1029

<210> 55  
<211> 343  
<212> PRT  
<213> Homo sapiens

<400> 55  
Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro

1 5 10 15

Thr Phe Pro Met Asp Thr Thr Leu Ala Ser Ile Ile Met Ile Phe Leu  
20 25 30

Thr Ala Leu Ala Thr Phe Ile Val Ile Leu Pro Gly Ile Arg Gly Lys  
35 40 45

Thr Arg Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly  
50 55 60

Ala Ala Ile Leu Ala Val Asn Phe Ser Ser Glu Trp Ser Val Gly Gln  
65 70 75 80

Val Ser Thr Asn Thr Ser Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser		
85	90	95
Ala Asp Ile Gly Leu Gln Val Gly Leu Gly Gly Val Asn Ile Thr Leu		
100	105	110
Thr Gly Thr Pro Val Gln Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu		
115	120	125
Glu Phe Thr Trp Arg Leu Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys		
130	135	140
Ala Leu Glu Lys Gly Leu Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys		
145	150	155
Phe Thr Pro Arg Ser Pro Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala		
165	170	175
Gly His Tyr Thr Ser Ala Met Leu Trp Val Ala Phe Leu Cys Trp Leu		
180	185	190
Leu Ala Asn Val Met Leu Ser Met Pro Val Leu Val Tyr Gly Gly Tyr		
195	200	205
Met Leu Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe		
210	215	220
Ser Met Ala Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala		
225	230	235
Ser Val Leu His Thr His His Gly Pro Ala Phe Trp Ile Thr Leu Thr		
245	250	255
Thr Gly Leu Leu Cys Val Leu Leu Gly Leu Ala Met Ala Val Ala His		
260	265	270
Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val Asp		
275	280	285
Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Leu Leu Ser		
290	295	300
Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile Pro		
305	310	315
Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His Pro		
325	330	335

Lys Asp Pro Asp Cys Ala Leu  
340

<210> 56  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 56  
Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro  
1 5 10 15

Thr Phe Pro Met Asp Thr Thr  
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<210> 57  
<211> 112  
<212> PRT  
<213> Homo sapiens

<400> 57  
Asn Phe Ser Ser Glu Trp Ser Val Gly Gln Val Ser Thr Asn Thr Ser  
1 5 10 15

Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser Ala Asp Ile Gly Leu Gln  
20 25 30

Val Gly Leu Gly Gly Val Asn Ile Thr Leu Thr Gly Thr Pro Val Gln  
35 40 45

Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu Glu Phe Thr Trp Arg Leu  
50 55 60

Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys Ala Leu Glu Lys Gly Leu  
65 70 75 80

Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys Phe Thr Pro Arg Ser Pro  
85 90 95

Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala Gly His Tyr Thr Ser Ala  
100 105 110

<210> 58  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 58  
Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala Ser Val Leu  
1 5 10 15

His Thr His His Gly Pro  
20

<210> 59  
<211> 19  
<212> PRT  
<213> Homo sapiens

<400> 59  
Leu Ala Ser Ile Ile Met Ile Phe Leu Thr Ala Leu Ala Thr Phe Ile  
1 5 10 15

Val Ile Leu

<210> 60  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 60  
Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly Ala Ala  
1 5 10 15

Ile Leu Ala Val  
20

<210> 61  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 61  
Met Leu Trp Val Ala Phe Leu Cys Trp Leu Leu Ala Asn Val Met Leu  
1 5 10 15

Ser Met Pro Val Leu Val  
20

<210> 62  
<211> 17  
<212> PRT  
<213> Homo sapiens

<400> 62  
Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe Ser Met  
1 5 10 15

Ala

<210> 63  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 63  
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Leu Ala Met Ala Val Ala  
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<210> 64  
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<212> PRT  
<213> Homo sapiens

<400> 64  
Pro Gly Ile Arg Gly Lys Thr Arg  
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<210> 65  
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<213> Homo sapiens

<400> 65  
Tyr Gly Gly Tyr Met Leu

<210> 66  
<211> 72  
<212> PRT  
<213> Homo sapiens

<400> 66  
His Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val  
1 5 10 15

Asp Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Gly Leu Leu  
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Ser Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile  
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Pro Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His  
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Pro Lys Asp Pro Asp Cys Ala Leu  
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<210> 67  
<211> 4928  
<212> DNA  
<213> Mus sp.

<400> 67  
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 <211> 1410  
 <212> DNA  
 <213> Mus sp.

<400> 68  
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ggaccattt ctagaacct tccactaca tctccatctt taagaagaag ctcaagggtc 1380  
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<210> 69  
<211> 470  
<212> PRT  
<213> Mus sp.

<400> 69  
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Thr Leu Ala Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys  
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Phe Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala  
35 40 45  
  
Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His  
50 55 60  
  
Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu  
65 70 75 80  
  
His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr  
85 90 95  
  
Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro  
100 105 110  
  
Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn  
115 120 125  
  
Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile  
130 135 140  
  
Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly  
145 150 155 160  
  
Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp  
165 170 175  
  
Lys His Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly  
180 185 190  
  
Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp  
195 200 205

Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val  
210 215 220

Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys  
225 230 235 240

Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe  
245 250 255

Thr Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp  
260 265 270

Gly Tyr Thr His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro  
275 280 285

Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe  
290 295 300

Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala  
305 310 315 320

Thr Lys Glu Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu  
325 330 335

Ala Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His  
340 345 350

Ser Ser Lys Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro  
355 360 365

Gln Thr Ala Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr  
370 375 380

Ala Thr Glu Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser  
385 390 395 400

Ser Ser Gln Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His  
405 410 415

Leu Asn Leu Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val  
420 425 430

Ser Leu Gly Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro  
435 440 445

Leu Gln Ser Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys  
450 455 460

Met Thr Ala Ile Pro Ser  
465 470

<210> 70  
<211> 760  
<212> PRT  
<213> Mus sp.

<400> 70  
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1 5 10 15

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20 25 30

Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp  
35 40 45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe  
50 55 60

Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala  
65 70 75 80

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg  
85 90 95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu  
100 105 110

Cys Ala Phe Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile  
115 120 125

Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr  
130 135 140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu  
145 150 155 160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser  
165 170 175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met  
180 185 190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu

195                    200                    205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu  
210                    215                    220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr  
225                    230                    235                    240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe  
245                    250                    255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp  
260                    265                    270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys  
275                    280                    285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile  
290                    295                    300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile  
305                    310                    315                    320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser  
325                    330                    335

Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly  
340                    345                    350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg  
355                    360                    365

Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser  
370                    375                    380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu  
385                    390                    395                    400

His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr  
405                    410                    415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val  
420                    425                    430

Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val  
435                    440                    445

Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro

450                    455                    460

Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala  
465                    470                    475                    480

Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn  
485                    490                    495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro  
500                    505                    510

His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly  
515                    520                    525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp  
530                    535                    540

Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro  
545                    550                    555                    560

Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu  
565                    570                    575

Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His  
580                    585                    590

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser  
595                    600                    605

Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val  
610                    615                    620

Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp  
625                    630                    635                    640

Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro  
645                    650                    655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Gly Ala Ser  
660                    665                    670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val  
675                    680                    685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser  
690                    695                    700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met

705

710

715

720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln  
725 730 735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn  
740 745 750

Asn His Leu Gly Ala Glu Val Ala  
755 760

<210> 71  
<211> 3046  
<212> DNA  
<213> Mus sp.

<400> 71

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<211> 516  
<212> DNA  
<213> Mus sp.

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<210> 74  
<211> 172  
<212> PRT  
<213> Mus sp.

<400> 74

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Tyr	Pro	Thr	Tyr	Tyr	Ile	Cys	Arg	Ser	Tyr	Glu	Asp	Cys	Cys	Gly	Ser
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Arg	Cys	Cys	Val	Arg	Ala	Leu	Ser	Ile	Gln	Arg	Leu	Trp	Tyr	Phe	Trp
	50					55					60				
Phe	Leu	Leu	Met	Met	Gly	Val	Leu	Phe	Cys	Cys	Gly	Ala	Gly	Phe	Phe
	65					70			75			80			
Ile	Arg	Arg	Arg	Met	Tyr	Pro	Pro	Pro	Leu	Ile	Glu	Glu	Pro	Thr	Phe
	85						90					95			
Asn	Val	Ser	Tyr	Thr	Arg	Gln	Pro	Pro	Asn	Pro	Ala	Pro	Gly	Ala	Gln
	100					105					110				
Gln	Met	Gly	Pro	Pro	Tyr	Tyr	Thr	Asp	Pro	Gly	Gly	Pro	Gly	Met	Asn
	115					120				125					
Pro	Val	Gly	Asn	Thr	Met	Ala	Met	Ala	Phe	Gln	Val	Gln	Pro	Asn	Ser
	130					135				140					
Pro	His	Gly	Gly	Thr	Thr	Tyr	Pro	Pro	Pro	Pro	Ser	Tyr	Cys	Asn	Thr
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Pro	Pro	Pro	Pro	Tyr	Glu	Gln	Val	Val	Lys	Asp	Lys				
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<212> PRT  
<213> Homo sapiens

<400> 75

Met	Trp	Leu	Leu	Leu	Thr	Met	Ala	Ser	Leu	Ile	Ser	Val	Leu	Gly	Thr
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1	5	10	15
Thr His Gly Leu Phe Gly Lys Leu His Pro Gly Ser Pro Glu Val Thr			
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Met Asn Ile Ser Gln Met Ile Thr Tyr Trp Gly Tyr Pro Asn Glu Glu			
	35	40	45
Tyr Glu Val Val Thr Glu Asp Gly Tyr Ile Leu Glu Val Asn Arg Ile			
	50	55	60
Pro Tyr Gly Lys Lys Asn Ser Gly Asn Thr Gly Gln Arg Pro Val Val			
	65	70	75
Phe Leu Gln His Gly Leu Leu Ala Ser Ala Thr Asn Trp Ile Ser Asn			
	85	90	95
Leu Pro Asn Asn Ser Leu Ala Phe Ile Leu Ala Asp Ala Gly Tyr Asp			
	100	105	110
Val Trp Leu Gly Asn Ser Arg Gly Asn Thr Trp Ala Arg Arg Asn Leu			
	115	120	125
Tyr Tyr Ser Pro Asp Ser Val Glu Phe Trp Ala Phe Ser Phe Asp Glu			
	130	135	140
Met Ala Lys Tyr Asp Leu Pro Ala Thr Ile Asp Phe Ile Val Lys Lys			
	145	150	155
Thr Gly Gln Lys Gln Leu His Tyr Val Gly His Ser Gln Gly Thr Thr			
	165	170	175
Ile Gly Phe Ile Ala Phe Ser Thr Asn Pro Ser Leu Ala Lys Arg Ile			
	180	185	190
Lys Thr Phe Tyr Ala Leu Ala Pro Val Ala Thr Val Lys Tyr Thr Lys			
	195	200	205
Ser Leu Ile Asn Lys Leu Arg Phe Val Pro Gln Ser Leu Phe Lys Phe			
	210	215	220
Ile Phe Gly Asp Lys Ile Phe Tyr Pro His Asn Phe Phe Asp Gln Phe			
	225	230	235
Leu Ala Thr Glu Val Cys Ser Arg Glu Met Leu Asn Leu Cys Ser			
	245	250	255
Asn Ala Leu Phe Ile Ile Cys Gly Phe Asp Ser Lys Asn Phe Asn Thr			

260

265

270

Ser Arg Leu Asp Val Tyr Leu Ser His Asn Pro Ala Gly Thr Ser Val  
275 280 285

Gln Asn Met Phe His Trp Thr Gln Ala Val Lys Ser Gly Lys Phe Gln  
290 295 300

Ala Tyr Asp Trp Gly Ser Pro Val Gln Asn Arg Met His Tyr Asp Gln  
305 310 315 320

Ser Gln Pro Pro Tyr Tyr Asn Val Thr Ala Met Asn Val Pro Ile Ala  
325 330 335

Val Trp Asn Gly Gly Lys Asp Leu Leu Ala Asp Pro Gln Asp Val Gly  
340 345 350

Leu Leu Leu Pro Lys Leu Pro Asn Leu Ile Tyr His Lys Glu Ile Pro  
355 360 365

Phe Tyr Asn His Leu Asp Phe Ile Trp Ala Met Asp Ala Pro Gln Glu  
370 375 380

Val Tyr Asn Asp Ile Val Ser Met Ile Ser Glu Asp Lys Lys  
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<210> 76  
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<212> PRT  
<213> Mus sp.

<400> 76  
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Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp  
35 40 45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe  
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Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala  
65 70 75 80

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg  
85 90 95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu  
100 105 110

Cys Ala Phe Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile  
115 120 125

Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr  
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Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu  
145 150 155 160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser  
165 170 175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met  
180 185 190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu  
195 200 205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu  
210 215 220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr  
225 230 235 240

Gln Val Val Tyr Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe  
245 250 255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp  
260 265 270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys  
275 280 285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile  
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Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile  
305 310 315 320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser  
325 330 335

Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly  
340 345 350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg  
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Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser  
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Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu  
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His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr  
405 410 415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val  
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Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val  
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Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro  
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Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala  
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Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn  
485 490 495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro  
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His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly  
515 520 525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp  
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Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro  
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Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu  
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Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His  
580 585 590

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser  
595 600 605

Leu Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val  
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Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp  
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Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro  
645 650 655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Ala Ser  
660 665 670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val  
675 680 685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser  
690 695 700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met  
705 710 715 720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln  
725 730 735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn  
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Asn His Leu Gly Ala Glu Val Ala  
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<210> 77

<211> 3046

<212> DNA

<213> Mus sp.

<400> 77

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<210> 78

<211> 1436

<212> PRT

<213> Bos sp.

<400> 78  
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Gly Val His Arg Cys Glu Gly Arg Val Glu Val Lys His Gln Gly Glu  
35 40 45  
  
Trp Gly Thr Val Asp Gly Tyr Arg Trp Thr Leu Lys Asp Ala Ser Val  
50 55 60  
  
Val Cys Arg Gln Leu Gly Cys Gly Ala Ala Ile Gly Phe Pro Gly Gly  
65 70 75 80  
  
Ala Tyr Phe Gly Pro Gly Leu Gly Pro Ile Trp Leu Leu Tyr Thr Ser  
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Cys Glu Gly Thr Glu Ser Thr Val Ser Asp Cys Glu His Ser Asn Ile  
100 105 110  
  
Lys Asp Tyr Arg Asn Asp Gly Tyr Asn His Gly Arg Asp Ala Gly Val  
115 120 125  
  
Val Cys Ser Gly Phe Val Arg Leu Ala Gly Gly Asp Gly Pro Cys Ser  
130 135 140  
  
Gly Arg Val Glu Val His Ser Gly Glu Ala Trp Ile Pro Val Ser Asp  
145 150 155 160  
  
Gly Asn Phe Thr Leu Ala Thr Ala Gln Ile Ile Cys Ala Glu Leu Gly  
165 170 175  
  
Cys Gly Lys Ala Val Ser Val Leu Gly His Glu Leu Phe Arg Glu Ser  
180 185 190  
  
Ser Ala Gln Val Trp Ala Glu Glu Phe Arg Cys Glu Gly Glu Pro  
195 200 205  
  
Glu Leu Trp Val Cys Pro Arg Val Pro Cys Pro Gly Gly Thr Cys His  
210 215 220  
  
His Ser Gly Ser Ala Gln Val Val Cys Ser Ala Tyr Ser Glu Val Arg  
225 230 235 240

Leu Met Thr Asn Gly Ser Ser Gln Cys Glu Gly Gln Val Glu Met Asn  
245 250 255

Ile Ser Gly Gln Trp Arg Ala Leu Cys Ala Ser His Trp Ser Leu Ala  
260 265 270

Asn Ala Asn Val Ile Cys Arg Gln Leu Gly Cys Gly Val Ala Ile Ser  
275 280 285

Thr Pro Gly Gly Pro His Leu Val Glu Glu Gly Asp Gln Ile Leu Thr  
290 295 300

Ala Arg Phe His Cys Ser Gly Ala Glu Ser Phe Leu Trp Ser Cys Pro  
305 310 315 320

Val Thr Ala Leu Gly Gly Pro Asp Cys Ser His Gly Asn Thr Ala Ser  
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Cys Asp Asp Gly Trp Asp Leu Asp Asp Ala Arg Val Val Cys Arg Gln  
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Leu Gly Cys Gly Glu Ala Leu Asn Ala Thr Gly Ser Ala His Phe Gly  
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Ala Gly Ser Gly Pro Ile Trp Leu Asp Asn Leu Asn Cys Thr Gly Lys  
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Glu Ser His Val Trp Arg Cys Pro Ser Arg Gly Trp Gly Gln His Asn  
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Cys Arg His Lys Gln Asp Ala Gly Val Ile Cys Ser Glu Phe Leu Ala  
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Phe Tyr Asn Gly Thr Trp Gly Ser Val Cys Arg Asn Pro Met Glu Asp  
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Pro Ser Asp Pro Trp Asn Tyr Asn Ser Cys Ser Pro Lys Glu Glu Ala  
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His Asn Cys Asn His Gln Glu Asp Ala Gly Val Ile Cys Ser Gly Phe  
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Ser Val Leu Gly His Met Pro Phe Arg Glu Ser Asp Gly Gln Val Trp  
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